

**ENVIRONMENTAL ASSESSMENT
MT-020-2005-0155**

for

**Fidelity Exploration & Production Co.
Coal Bed Natural Gas**

**Tongue River - Deer Creek North Project
and
Tongue River - Pond Creek Project
Plans of Development**

Big Horn County, Montana

Prepared by:

Bureau of Land Management
Miles City Field Office

In cooperation with
Montana Department of Environmental Quality
and
Montana Board of Oil and Gas Conservation

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SUMMARY

The Environmental Assessment (EA) for the Fidelity Exploration & Production Co. Tongue River - Deer Creek North and Pond Creek Coal Bed Natural Gas (CBNG) Project Plans of Development (PODs) is being prepared by the Bureau of Land Management (BLM), in cooperation with the Montana Department of Environmental Quality (MDEQ) and the Montana Board of Oil and Gas Conservation (MBOGC); to provide a precise, coordinated analysis across agency jurisdiction. The project area is located within the CX Field (approved by the MBOGC), Big Horn County of southeastern Montana, T. 8 and 9 S., R. 39, 40 and 41 E.

Fidelity Exploration & Production Company (Fidelity) filed the Tongue River - Deer Creek North Project POD and Applications for Permit to Drill (APD's) for 170 wells, received by the BLM on January 31, 2005. Fidelity filed the Tongue River - Pond Creek Project POD and APD's for 78 wells, received by the BLM on February 2, 2005. The projects proposed by Fidelity includes the drilling, completing and producing 122 fee wells and producing 15 existing fee wells; and the drilling, completing and producing 126 federal wells and producing 2 existing federal wells. Additionally, the PODs included well site access roads, pipelines for water and gas, overhead and underground power lines, water management options (including the MDEQ Montana Pollution Discharge Elimination System (MPDES) Permit for Treated Water), metering/compressor facilities and project reclamation. The average production life of the project wells is expected to be 10-20 years with final reclamation to be completed 2 to 3 years after plugging of the wells.

Rights-of-way would be issued to Fidelity for "off-lease" facilities on federal surface within both the Deer Creek North and Pond Creek PODs. A second right-of-way would be issued to Powder River Energy Corporation for a buried power line and access road on federal surface within Fidelity's Pond Creek POD. All rights-of-way would be subject to specific stipulations. No temporary work areas would be required. The rights-of-way would be monitored for construction, use, and reclamation.

Water produced by the Deer Creek North and Pond Creek PODs is proposed to be made available for beneficial uses, discharged into the Tongue River in accordance with Fidelity's existing MPDES permit as proposed for modification (MT0030457), discharged into the Tongue River in accordance with Fidelity's proposed MPDES permit for treated water (MT0030724), and stored in lined impoundments. A water treatment facility is proposed and would be located 2.5 miles south-southeast of Decker Montana, Big Horn County; T. 9. S., R. 40 E, SE¹/₄SE¹/₄, Section 34. Fidelity proposes to utilize an ion exchange system as the produced water treatment technology.

Issues of concern include the following:

- Air quality effects from CBNG development activities including drill rig emissions (exhaust emissions as well as dust generated by drilling the wells) and fugitive dust (construction activities as well as road dust) and compliance with all applicable air quality rules and standards, including ambient air quality standards
- Cumulative Impacts of this action when considered with past, present and reasonably foreseeable future actions
- Noxious weed introduction and proliferation
- Drawdown of groundwater table and effects to springs and wells (pumping water out of coal seams)
- Habitat fragmentation and disturbance effects to wildlife habitat
- Public Health and Safety
- Potential for methane migration and methane drainage
- Disturbance and reclamation activities associated with the PODs
- Surface water quality degradation
- Construction, management and monitoring of produced water storage sites and irrigation sites
- Cultural Resource impacts
- Water Well Mitigation Agreements

- Coal Mine/CBNG conflicts (ground water recovery and overlap in development areas)

The environmental analysis of the EA and other related environmental analyses, provides basis for the BLM, MBOGC and MDEQ decisions. The agencies must decide whether or not to approve the individual wells and associated infrastructure on or for the benefit of leases associated with the proposed projects. Various actions and management options are proposed to be analyzed in the alternatives. The agencies have identified Alternative D as the preferred alternative.

GLOSSARY

ANIMAL UNIT MONTH (AUM): The amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month.

APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK (APD): The Department of Interior permit application form needed to authorize oil and gas drilling activities on federal minerals.

BENEFICIAL USES: Beneficial uses of the Tongue River include agriculture, drinking water, and industrial and recreational uses.

COAL BED NATURAL GAS (aka COAL BED METHANE): A clean-burning natural gas found inside and around coal seams. The gas has an affinity to coal and is held in place by pressure from groundwater. Producing coal bed natural gas involves drilling into coal seams and reducing the hydrostatic pressure on the coal by producing the groundwater thus releasing the gas.

CRITERIA POLLUTANTS: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, fine particulate matter and sulfur dioxide.

CUMULATIVE EFFECT: The effect on the environment that results from the positive or negative impacts of an action when added to other past, present and reasonable foreseeable future actions, regardless of what agency or person performed such action(s).

CONDITION OF APPROVAL (COA): Requirements imposed on the applicant under which an Application for a Permit to Drill (APD) or Sundry Notice is approved.

EPHEMERAL STREAM: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

INTERMITTENT STREAM: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

KEYWAY: When constructing dams or dikes for pits or impoundment with fill embankment, a keyway or core trench 10 to 12 feet wide should be excavated to a minimum depth of 2 to 3 feet below the original ground level. The core of the embankment is then constructed with compacted, water-imperious material.

LEASE: 1) An oil and gas lease is a contract that grants the lessee the rights to drill for and remove oil and gas deposits in the leased lands, subject to the terms and conditions incorporated in the lease. 2) The tract of land, on which a lease has been obtained, where producing wells and production equipment are located.

MINERAL DRAINAGE: An offsetting producing well that removes oil or gas from a federal or Indian lease.

MITIGATION MEASURES: Methods or procedures developed for the purpose of reducing or eliminating the impacts of an action. Mitigation may be built into the proposed project or required in an alternative as a condition of approval.

PRIMARY STANDARDS: NAAQS standards designed to protect human health, including "sensitive" populations, such as people with asthma and emphysema, children, and senior citizens. Primary standards are designed for the immediate protection of public health, with an adequate margin of safety, regardless of cost.

PREVENTION OF SIGNIFICANT DETERIORATION (PSD) PROGRAM: Incremental increases in the ambient concentration of criteria pollutants are regulated under the New Source Review - Prevention of Significant Deterioration (PSD) program. The program is designed to limit the incremental increase of specific air pollutants from major sources of air pollution above a legally defined baseline level, depending on the classification of a location. Incremental increases in PSD Class I areas are strictly limited, while increases allowed in Class II areas are less strict.

PROPOSED ACTION: An individual action or a combination of actions proposed on or to affect federal leases.

SECONDARY STANDARDS: NAAQS standards designed to protect public welfare, including soils, water, crops, vegetation, buildings, property, animals, wildlife, weather, visibility and other economic, aesthetic, and ecological values, as well as personal comfort and well-being. Secondary standards were established to protect the public from known or anticipated effects of air pollution.

SPLIT ESTATE: Surface and minerals of a given area in different ownerships. Frequently, the surface is privately-owned while the minerals are federally-owned.

ABBREVIATIONS/ACRONYMS

2D	Two-dimensional
3D	Three-dimensional
7Q10	Lowest flow for 7 consecutive days over any 10 year period
amsl	Above mean sea level
AO	Authorized Officer
APD	Application for Permit to Drill
APE	Area of Potential Effect
APLIC	Avian Power Line Interaction Committee
ARM	Administrative Rules of Montana
AUM	Animal Unit Month
BCF	Billion Cubic Feet
BCPL	Bitter Creek Pipelines, LLC
BGS	Below Ground Surface
BLM	Bureau of Land Management
BMP	Best Management Practice
CBNG	Coal Bed Natural Gas
cfs	Cubic Feet per Second
COA	Conditions of Approval
CWA	Clean Water Act
D1	Dietz 1 Coal (Anderson)
D2	Dietz 2 Coal (Upper Dietz)
D3	Dietz 3 Coal (Lower Dietz)
DEM	Digital Evaluation Model
dh	Change in head
DNRC	Montana Department of Natural Resource Conservation
EA	Environmental Assessment
EC	Electrical Conductivity
EPA	Environmental Protection Agency
ESA	Endangered Species Act
Fidelity	Fidelity Exploration and Production Company
FLPMA	Federal Land Policy Management Act
ft	Feet
FWS	U.S. Fish and Wildlife Service
GPM	gallons per minute
GWIC	Groundwater Information Center
HMM	High Mean Monthly
K	Hydraulic Conductivity (units = ft/day)
KCLA	Known Coal Leasing Area
LMM	Low Mean Monthly
MAAQs	Montana Ambient Air Quality Standards
MAQP	Montana Air Quality Permit
MBMG	Montana Bureau of Mines and Geology
MBOGC	Montana Board of Oil and Gas Conservation
MCA	Montana Codes Annotated
MDEQ	Montana Department of Environmental Quality
MEPA	Montana Environmental Policy Act
mi	Miles
mi ²	Square Miles
MLA	Mineral Leasing Act
MPDES	Montana Pollution Discharge Elimination System
MTFWP (FWP)	Montana Fish, Wildlife and Parks
uS/cm	Microseimens per centimeters (a measure of EC)
MT FEIS	Montana Statewide Final Environmental Impact Statement (2003)

NAAQS	National Ambient Air Quality Standards
NASIS	National Soils Information System
NCT	Northern Cheyenne Tribe
NHD	National Hydrology Database
NHPA	National Historic Preservation Office
NOI	Notice of Intent
OZM	Ozone Limiting Method
POD	Plan of Development
PRG	Powder River Gas
PSD	Prevention of Significant Deterioration
BPIP	Building Profile Input Program
R/W	Right-of-way
RM	River Miles
RMP	Resource Management Plan
S	Storativity (unitless)
SAR	Sodium Adsorption Ratio
SHPO	State Historic Preservation Office
SOB	Statement of Basis
SSS	Special Status Species
SWPPP	Storm Water Pollution Prevention Plan
t/ac/yr	tons per acre per year
T/E	Threatened/Endangered
TAC	Technical Advisory Committee for the Powder River Basin Controlled Groundwater Area
TMDL	Total Maximum Daily Load
USGS	United States Geological Survey
WMP	Water Management Plan
WMPP	Wildlife Monitoring and Protection Plan
WNV	West Nile Virus
WOGCC	
WQA	Water Quality Act
WY FEIS	Wyoming Environmental Impact Statement (2003)
yrs	Years